

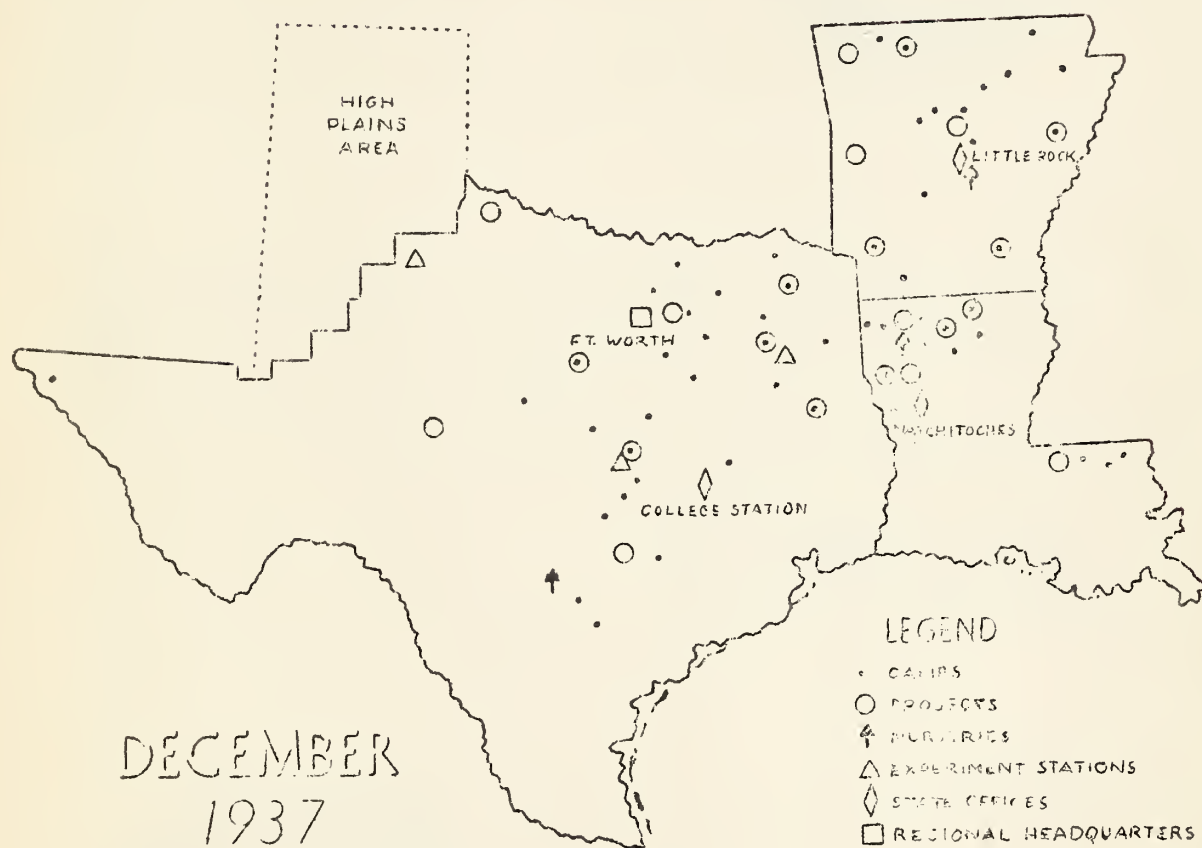
## **Historic, archived document**

Do not assume content reflects current scientific knowledge, policies, or practices.



# SOIL CONSERVATION SERVICE

# NEWS



DECEMBER  
1937

REGION 4  
COMPRISING STATES OF LOUISIANA,  
ARKANSAS, AND TEXAS EXCEPT  
HIGH PLAINS AREA





WITH SINCERE APPRECIATION TO EACH MEMBER OF THE SERVICE FOR THE  
SPLENDID WORK DONE DURING THE YEAR NOW CLOSING AND WITH EVERY  
GOOD WISH FOR THE HOLIDAY SEASON AND THE YEAR AHEAD

*David P. Merrill*





SOIL CONSERVATION DISTRICTS IN ARKANSAS

By

Frank R. Stanley,  
Associate Soil Conservationist.

The landowners in Arkansas have faith in the soil conservation districts law as an instrument to enable them to work cooperatively in combating soil erosion. The district law will permit these landowners to secure the cooperation of State and Federal agencies in their fight to prevent and control the destructive force of erosion on their individual farms. The act gives the landowners complete power to determine whether a district shall be organized, to determine what their program shall be, to elect a majority of the supervisors, to determine whether land use regulations shall be adopted, and what such regulations shall provide. After the district has been in operation for a period of five years, a majority of landowners may vote to discontinue the district should they so desire.

That landowners in all sections of Arkansas have manifested their faith in legally constituted soil conservation districts during the past six months is shown by the following facts as reflected from records of organization of districts in the State.

FACTS ON DISTRICTS THAT HAVE BEEN ORGANIZED.

Name	: : Votes		: Votes		: Total No. of	: Date Certificate of Organization Issued
	: Approx.	: for	: against	: landowners		
	: Acreage	: Creation	: Creation	: in Dist.		
Mino Creek	89,000	256	14	295	Nov. 12, 1937	
Magazine	66,000	195	4	350	Nov. 12, 1937	
Lower East Saline	489,000	571	13	1,500	Nov. 12, 1937	
Green County	.	.	.	.		
Crowley Ridge	175,000	816	6	1,350	Dec. 7, 1937	
East Central	.	.	.	.		
Arkansas	470,000	1,234	23	2,750	Nov. 12, 1937	

DISTRICTS APPROVED BY THE STATE SOIL CONSERVATION COMMITTEE FOR REFERENDA AND THEIR STATUS TO DATE.

Name	:Approx.	: Votes for	: Votes	: Total No. of
	:Acreage	: Creation	: against	: Landowners in
	:	:	: Creation	: District
Poteau River	200,000	427	42	550
Tri-River	390,000	774	11	1,200
Illinois Bayou	275,000	745	12	875
Crooked Creek	380,000	Vote not yet certified		

PROPOSED DISTRICTS WHERE HEARINGS HAVE BEEN CONDUCTED BY THE STATE SOIL CONSERVATION COMMITTEE BUT TO DATE HAVE NOT BEEN APPROVED FOR REFERENDA.

Name	Acreage	Date Duo Notice Given	Date of Hearing	Number of Hearings
Sebastian Franklin	520,000	Aug. 4, 1937	Aug. 7, 1937	2
Northwest Ozark	1,220,000	July 29, 1937	Aug. 18, 1937	2
Witt Springs	150,000	Aug. 4, 1937	Aug. 26, 1937	1
Mount Judea	165,000	Aug. 4, 1937	Aug. 26, 1937	1
Blue Mountain	185,000	July 24, 1937	Aug. 13, 1937	1
Mazarn Valley	153,000	Aug. 4, 1937	Aug. 20, 1937	1
Red Colony and Pond Creek	80,000	June 28, 1937	July 9, 1937	2
Horshead	72,000	July 29, 1937	Aug. 19, 1937	1
Des Arc	90,000	June 29, 1937	July 15, 1937	3
Ouachita	55,000	Sept. 28, 1937	Oct. 11, 1937	1
Prescott	53,000	July 24, 1937	Aug. 11, 1937	1
Pine Grove	289,000	July 24, 1937	Aug. 12, 1937	1
Diorks	15,000	June 28, 1937	July 8, 1937	1
Odon-Hopper	17,000	Sept. 28, 1937	Oct. 11, 1937	2
Big Creek	60,000	Sept. 28, 1937	Oct. 18, 1937	1
Piggott	167,000	Sept. 28, 1937	Oct. 14, 1937	1
Amity	20,000	Sept. 28, 1937	Oct. 11, 1937	1
Fourcho-			Sept. 20, 1937	
Petit Jean	470,000	Sept. 3, 1937	Sept. 21, 1937	7
Craighead	300,000	Sept. 28, 1937	Oct. 15, 1937	1
Hightower	70,000	Nov. 12, 1937	Nov. 23, 1937	1
White Oak	50,000	Sept. 28, 1937	Oct. 11, 1937	1
Cadron	600,000	Aug. 4, 1937	Aug. 24, 1937	3
Point Remove	300,000	Aug. 4, 1937	Aug. 25, 1937	2

The farmers in Arkansas believe that legally constituted soil conservation districts with the power and privilege of democratic control will represent an excellent modium through which the individual farmers, State and Federal agencies can cooperate on a basis satisfactory to all.

SOIL AND WATER CONSERVATION IN FLOOD CONTROL

By

E. B. Deeter,  
Soil Conservation Service

Under date of June 22, 1936, there was approved Public No. 738, 74th Congress, known as the Omnibus Flood Control Act. Section 2 of this Act states in part: "That, hereafter, Federal investigations and improvements of rivers and other waterways for flood control and allied purposes shall be under the jurisdiction of and shall be prosecuted by the War Department under the direction of the Secretary of War and supervision of the Chief of Engineers, and Federal investigations of watersheds and measures for run-off and waterflow retardation and soil erosion prevention on watersheds shall be under the jurisdiction of and shall be prosecuted by the Department of Agriculture under the direction of the Secretary of Agriculture, except as otherwise provided by Act of Congress;".

The Act directed the two Departments to carry on preliminary examinations and surveys on some 222 waterways and watersheds, which embrace an area of about one-third the continental area of the United States.

The Flood Control Act of 1936 was amended by Public 406, 75th Congress, and approved August 28, 1937. This legislation added a large number of watersheds to the Omnibus Flood Control Act and gave the Department of Agriculture authority to make surveys on all watersheds which had heretofore been authorized for survey by the War Department.

The Act creates the opportunity for watershed treatment as a supplement to downstream engineering, and makes effective that phase of the Department's policy which refers to flood control, with its many ramifications and far-reaching consequences. The Act provides the means for coordinated action by the Departments of War and Agriculture. The role of the Department of Agriculture in a program of flood control is of extreme importance, a fact which is borne out by research and experience on a large scale.

It is believed that a correct statement of the water policy of the Department of Agriculture has been made as follows:

"The Department of Agriculture is interested in water problems because of the relationship of water to agricultural production; to the use of non-agricultural land for recreational and wildlife purposes; to certain aspects of power development; to the prevention and control of soil erosion and floods; and to the transportation of farm and forest products and of commodities obtained by farmers. It is responsible for stimulating, guiding, and aiding proper watershed management on almost all farm, forest, and range lands; and, in addition, has direct managerial responsibility for water conservation and utilization and the regulation of stream flow on the national forests. It is also interested in prevention of pollution of waters which are in any way related to departmental interest or responsibility."

Personnel from the Bureau of Agricultural Economics, Forest Service, and Soil Conservation Service are now preparing preliminary flood control reports on watersheds in various parts of the country. These reports are preliminary in nature, but nevertheless a vast quantity of data and information are required in their compilation. In Texas and Louisiana the Extension Service, through the county agents, has rendered excellent service in furnishing information through the medium of questionnaires sent throughout the two states. Thus far work has not been initiated in Arkansas. The Experiment Stations in Texas and Louisiana have also offered their facilities in securing information. Where a preliminary report recommends further studies, a detailed survey will be made to determine a program of control measures. The detailed reports will guide Congress in providing for actual control operations.

Although much work must be done in order to find a solution to the many problems that are involved, the Flood Control Act has provided the basis for a coordinated attack upon such problems by the War Department and the Department of Agriculture. National, state, and local cooperation will be necessary in order to insure success.

\*\*\*\*\*

#### KUDZU FOR EROSION CONTROL

By

E. A. Hodson,  
Regional Agronomist.

Kudzu when once established provides erosion control and complete coverage for the entire year and is one of the best plants available for stabilizing erosion on steep banks and large gullies where grass and trees cannot be used effectively. It is also a valuable forage plant when grown under conditions that will permit controlled grazing. This plant should be more generally used for erosion control where adapted. Adequate moisture and plant food are two important points to emphasize in selecting sites for new plantings of kudzu if satisfactory growth is to be obtained.

For erosion control in gullies, plants should be set at points where silt has accumulated behind check dams or along the channel where moisture will be available. Any plants set along the gully banks should be set in rows ten to fifteen feet from the brink of the gully banks to get the best possible soil and moisture condition. The soil should be well prepared and highly fertilized with barnyard manure or commercial fertilizer.

Planting should be done during the dormant season and early enough to permit the soil to become well settled by winter and early spring rains before growth starts. The plants should be set so that the buds are approximately level with the general ground level. The soil should be packed thoroughly around the roots of each plant.

Plants should be packed for shipment to insure delivery in good condition and when received must be "heeled in" immediately to prevent the roots from drying out. This precaution against drying out must be continued until the plants are set and when carried to the field the roots should be packed with wet moss or kept submerged in water while being handled for setting.

Cultivation is necessary during the first growing season to control grass and weeds. There is no danger of kudzu spreading to cultivated land to become a pest. It is necessary to protect new plantings from grazing.

\*\*\*\*\*

### TERRACE MAINTENANCE

By

J. J. Coyle,  
Assoc. Agricultural Engineer.

The importance of proper terrace maintenance cannot be over-emphasized. The methods of cultivation in practice in this region seriously impair the size of a terrace in one crop season.

As an example of the rapid decline in the size of a terrace through lack of proper maintenance the following is cited: A field of approximately 45 acres was terraced on a cooperating farm in one of the project areas during the winter of 1934. When completed these terraces were carefully checked and found to be up to specifications in every respect with ample channel capacity to take care of the expected volume of run-off. Because of a change in tenants it was impossible to secure proper maintenance of the terraces during the following year. It was decided that this situation offered an excellent opportunity to determine the effect of failure to maintain terraces properly. The project manager had the terraces rechecked very carefully early in the spring of 1936. The results were astounding. Instead of having ample channel capacity as originally constructed, many points were found in the terraces where the capacity had been reduced by more than 50 percent. It was difficult to determine the exact width of the terraces because of earth that had been plowed into the water channel.

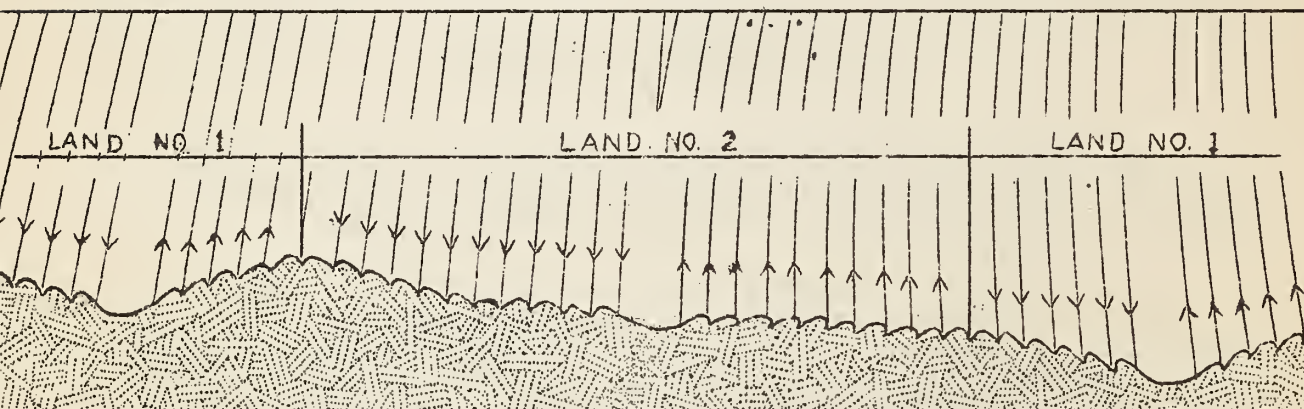
The above case brought out another detrimental effect of the failure to properly maintain terraces, particularly to those terraces where additional outlet protection was needed in the form of vegetation or structures. These outlets used at the end of the terrace channel were made just wide enough to fully accommodate the expected run-off from the terrace. Failure to maintain the terraces properly caused the

channel to gradually be moved up hill and the run-off water to eventually cut around the upper edge of the vegetation or structure, not only destroying the usefulness of the protective measure, but starting the channel to wash also.

The good effects of proper maintenance are just as striking as the ill effects of improper maintenance. The writer has observed terraces that were constructed two years ago and now have fully as much capacity as they had originally. The owners or tenants of the farms on which those terraces are located haven't performed a miracle. They have simply followed a schedule of systematic maintenance as outlined by the project staff members.

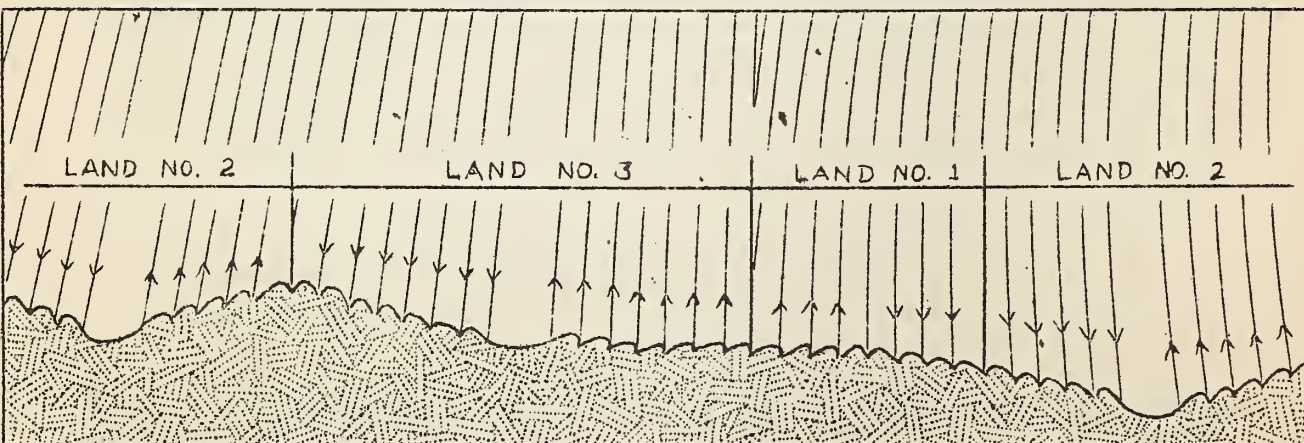
If the terracing phase of the Soil Conservation Service program is to pay dividends, the systematic maintenance as observed on some farms must be duplicated on every farm under agreement.

The sketch below illustrates a recommended method of plowing terraced fields to obtain proper terrace maintenance.



METHOD OF PLOWING TERRACED FIELDS

This method to be used alternate years, beginning with the first plowing after terraces are constructed.

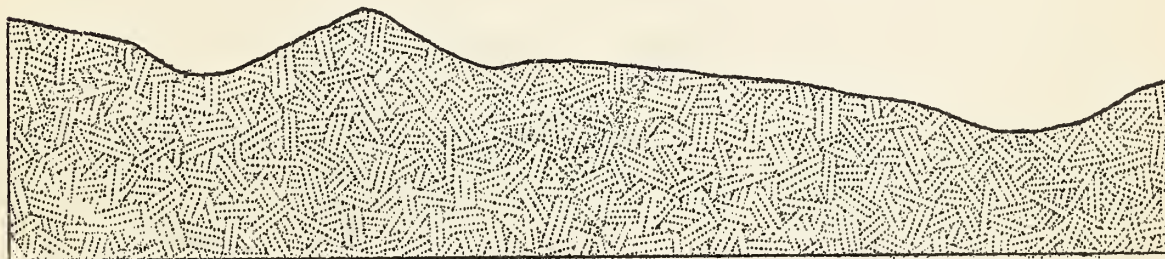


METHOD OF PLOWING TERRACED FIELDS

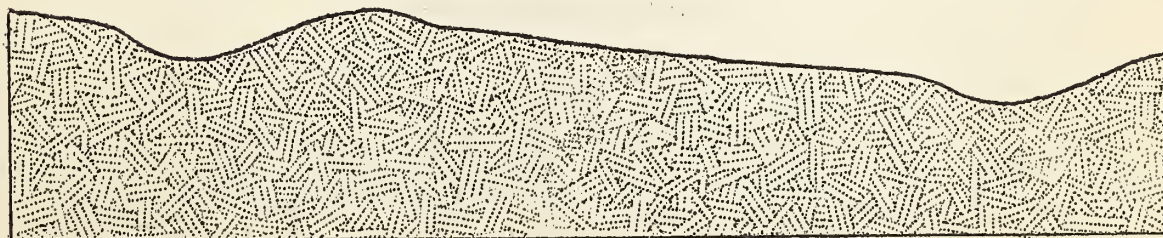
This method to be used alternate years, beginning with the second plowing after terraces are constructed.

The sketch shows the entire field plowed up two years in succession with a change in the number of lands the second year to prevent formation of a definite ridge or dead furrow caused by having the lands in the same place each year. Land number one may be used alone when it is not desirable to flat break the entire field. The width should be varied a little each year to prevent a ridge forming at the upper edge of the land. This can be done by locating the first furrow about four feet further up the slope the second time the terrace is plowed and then going back to the original location for the third plowing and continuing to alternate the locations each time the channel is plowed out. A slight shift will be caused in the center of the channel but it will not be sufficient to be objectionable.

The advantages of concentrating the maintenance work on the channel rather than on the ridge is illustrated by the sketches below.



MAINTENANCE CONCENTRATED ON RIDGE



MAINTENANCE CONCENTRATED ON CHANNEL

The first sketch shows a terraced field in which the terraces have been maintained by concentrating the work on the ridge. Two objectionable features are present in a terrace maintained in this manner: First, the run-off water is carried from the field behind a relatively narrow ridge. Should the terrace overtop during an extra heavy rain the ridge would be cut through. The terrace would cease to function, thereby allowing all the water behind it to flow across the inter-terrace area onto the next terrace below. The second terrace would then probably break. Second, a rather steep slope is maintained on the lower side of the ridge, making cultivation difficult and increasing the velocity of run-off from that area.

The next sketch shows terraces that have been maintained by concentrating the work on the terrace channel. In this case the terraced ridge has been reinforced and blended into the normal slope of the land in such a manner that an occasional overtopping during abnormal rains would cause very little damage. The ridge would not be likely to break and the only water spilled on the next terrace would be that which the upper terrace channel is not able to carry. The steep slope of the lower side of the terrace is also eliminated.

\*\*\*\*\*

#### FOREMAN TRAINING

Foremen, loaders and assistant loaders in twenty-eight soil conservation camps in Region 4 are meeting weekly in foremanship conferences. The foremen are analyzing their job, discussing their responsibilities, and developing their natural ability in leadership. Such conferences are providing the medium through which the men actually executing the work program may make greater contributions to the service program.

Reports of each conference are bringing excellent suggestions for handling the foreman's responsibilities and particularly the human relation problems.

"We are already seeing improvement in our field work and interest taken by our personnel and we feel it is due to this weekly conference," states B. P. Garvey, Jr., Kaufman camp superintendent, in commenting on the first five conferences held in his camp.

\*\*\*\*\*

"As I travel agricultural America, I am gratified at the comparative absence of grandiose ideas on how to conserve soil and water. On projects, on cooperating farms, on adjacent farms, the trend is toward grass, toward soil-building crops, toward contour cultivation, toward a scheme of soil defense and water conservation that may be embraced readily by the average producer and at the same time permit him to live off the land."

- Dr. H. H. Bennett, Chief,  
Soil Conservation Service.

NACOGDOCHES MAKES VALUABLE CONTRIBUTION  
TO WILDLIFE PROGRAM

By

Homer G. Towns,  
Acting Regional Biologist.

What seems to be the most comprehensive quail census that has ever been made on farm lands has just recently been completed on the Nacogdoches, Texas project area. The work was done by CCC enrollees, during weather which would not permit regular field work, Phil Goodrum, Research Biologist, Texas State Fish, Game and Oyster Commission, supervised the work assisted by Travis MacClendon, Junior Forester, Soil Conservation Service. The enrollees were used in groups of ten under the supervision of a competent forester. The enrollees were lined up ten steps apart and were kept about the same distance apart as they walked across a farm. The foreman went along with the enrollees at all times and carried a map of the farm on which he plotted the location of each covey of quail. All rabbits seen were counted but not plotted on the map. The data collected are as follows:

Total farms	104
Total acreage	16,693
Average size farm	160.5
Total number quail	1,604
Acres per quail	10.47
Number quails per farm	15.4
Total number rabbits	450
Acres per rabbit	37

The results for individual farms varied from no birds or rabbits per farm to as high as seven coveys of quail, totaling 98 birds, and 31 rabbits. The highest concentration of quail was on the farm of Mrs. Alice Gentz, where two coveys of quail totaling 25 birds or an average of one bird to 1.32 acres were found. (These birds probably use surrounding lands to some extent.)

One of the most significant facts revealed by the survey was that nearly one-half the farms (47) had no quail at all at the time of survey. Although a definite check was not made, indications were that these farms for the most part were clean tilled with pastures and woodlands closely grazed. In general terms, farms on which quail were found in plentiful numbers, had a reasonable amount of woody vegetation well distributed over the farm. This survey also reveals the fact that environments supporting quail and other forms of wildlife were not necessarily associated with farms in a run-down condition. In other words, some of the farms which have the highest income per acre have reasonable wildlife population. This is evidence of the fact that a farmer does not have to reduce his farm income in order to have a reasonable amount of wildlife.

After a more careful check has been made on the kinds and amounts of vegetation present where the quail were found as compared with farms in the same locality where there were no quail it will be possible to make more definite recommendations for improving wildlife habitat as the plantings and other erosion control measures are applied.

This survey will be followed up and details of the findings will be made available to the Service.

\*\*\*\*\*

### WOODLANDS - THE FARMER'S UNEMPLOYMENT INSURANCE

By

Paul T. Gillett,  
Woodland Section.

In the October issue of the Soil Conservation Service News, Mr. Mitchell analyzed the problem of an average upland cotton farmer in determining whether to clear up more woodland and put the land in cotton, or to leave the woodland and care for it as a crop. The results of his analysis were significant.

There is another interesting comparison which can be made, a comparison of the compensation to the farmer for the time and energy spent in producing various crops and materials, including the wood products he may harvest from his woodlands, either for use on the farm or as material for sale.

Mr. Farmer has a job; a job raising crops. He gets paid for the time it takes him to raise those crops. In reality, when the farmer takes his crops to market and receives payment he is paid wages for the time he has spent producing them. If it takes a man 10 hours to produce an article for which he can get \$10.00, then his labor has been worth a dollar an hour. But if he has spent \$5.00 in the production of the article aside from his own labor then his net wages have been only fifty cents an hour. Then, too, a man may produce an article for which he can receive \$10.00 in 10 hours and earn \$1.00 an hour, but if that is all he does in a week, then his weekly wage is only \$10.00. He is, in reality, employed only part-time. Thus a farmer whose farm business allows him to use productive labor only half the time may have a fair income for this six months, but when distributed over the whole year it is low.

That getting out woodland products offers farmers the opportunity of using their time productively during seasons when they are unable to use it on other crops is scarcely open to question. Woods work can be done in the winter, in the summer after crops are "laid by," and during weather when field work cannot be done. In this way, if a farmer has sufficient woodland acreage and manages it well so that he always has a

usable or marketable supply of trees and does not deplete this supply by cutting more than the woodland is capable of growing, he has a crop on which he will be able to use all time when he is not working in his fields and can thereby splice out his labor income with woods work.

Each crop has a different labor income value. Let's compare them so that the farmer will know how much he gets per hour for his labor on each. Naturally he will want to plan his farm business so that he will be gainfully occupied all of the time at the highest possible wage. The table below shows what the average hill farmer in East Texas, Arkansas, or Louisiana receives for his efforts on the basis of average yields, average values of his products, and average costs of producing each crop. For any individual case under consideration, actual local figures should be used.

LABOR RETURN PER HOUR FOR TIME SPENT ON  
FARM PRODUCTS

Product or Crop	Unit	Gross Value	Cost of Production (Except Labor)	Net Value of Labor	Man Hours	Not Hourly Labor Income
<u>Field Crops and Livestock</u>						
Cotton for sale	(135 lbs. lint)					
	(173 lbs. seed)	\$18.64	\$ 7.32	\$11.32	76	\$0.149
Corn for sale	18 bu.	11.56	6.46	5.10	36	0.142
Corn for use on farm	18 bu.	18.00	6.46	11.54	36	0.321
Dairy products- sale	(175 lbs-B-fat)					
	(140 lbs-veal)	55.48	45.23	10.25	135	0.076
Dairy products for farm use	(175 lbs-B-fat)					
	(140 lbs-veal)	99.75	45.23	54.52	135	0.404
<u>Wood Products</u>						
Chunk heater wood for use or sale	1 stand cd.	3.50	0.50	3.00	45	0.066
Split stove wood for use or sale	1 stand cd.	5.00	0.50	4.50	52	0.086
Fence posts for sale or use	1-6' or 7' post	0.10	0.01	0.09	0.13	0.692
No.1 logs for sale (pino)	1000 ft., B. M.	9.00	4.50	4.50	13.4	0.336
No.2 logs for sale "	1000 ft., B. M.	6.50	4.50	2.00	13.4	0.150
Pulpwood for sale	1 stand cd.	2.75	0.75	2.00	13.7	0.146
All wood products (average) - farm use	Aver. farm needs	94.71	13.56	81.15	213	0.381

In the above table, values of field crops and dairy products for sale are the 1909-1914 averages received by farmers as reported in "Crops and Markets" for September, 1937, page 191. Values of wood products are based on average prevailing market prices. Production costs of field crops and dairy products were computed from data supplied by Texas Experiment Station Bulletin 453. Costs of production of wood products are assumed averages covering team, tools, equipment, and overhead costs. Amounts of labor used in production of field crops and dairy products were supplied by Texas Agriculture Experiment Station Bulletin 453 and amounts of labor used for wood products were computed from data contained in Southern Forest Experiment Station Occasional Paper #59 and Forest Survey Release #27.

The analysis given above shows that a farmer gets relatively good wages while working on his woods crop. Let us not, then, be too hasty in assuming that pastures and plowed fields are the only or even the best source of farm income; the farm woodland may be the farmer's unemployment insurance for years to come provided he develops it and manages it as any good paying crop has every economic right to be managed. Let us analyze each farm business and assign the woods crop to its merited position.

\*\*\*\*\*

#### GRASS EFFECTIVELY USES LARGE AMOUNTS OF WATER

(Extract from "Grass Report on Grass Experiments"  
Texas Agricultural Experiment Station, Spur, Tex.)

"A dense covering of grass is an almost impregnable barrier against runoff and soil erosion. The porous, humus-laden soil under the grass absorbs water rapidly. Rain falling upon sod does not beat the soil into a muddy suspension, thus the water that passes downward is fairly clear and does not obstruct its own passageways with suspended material.

"Grass provides a set-up for a quick turnover of water. It can transpire large quantities in a short time, leaving room in the soil for water of subsequent rains. Few crops have the ability to use as large quantities of water as does grass.

"Well sodded flats may be used to advantage as a dumping place for storm water coming from highways, steep rocky land, or that diverted from gullies and ravines. This system of water diversion is already being widely used. When the grassland of West Texas is properly watered the flood problem will be largely solved."

- Project Tex-6,  
San Angelo, Texas.



UNITED STATES  
DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
REGION 4  
OFFICE OF THE REGIONAL CONSERVATOR  
Neil P. Anderson Building  
Ft. Worth, Texas  

---

Official Business

PENALTY FOR  
PRIVATE USE TO AVOID  
PAYMENT OF POSTAGE  
\$300.00

Library Agricultural Economics  
U. S. Department of Agriculture  
Washington, D. C.